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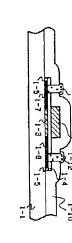
(54) MANUFACTURE OF THIN FILM SEMICONDUCTOR DEVICE

(57) Abstract:

PURPOSE: To form a silicon film consisting of a silicon crystal of a large crystal particle diameter and the interface between oxide films, which has a small interfacial level density, by a method wherein an antophous semiconductor thin film is formed on an insulating substrate, is heat-treated without taking out in the atmosphere

process. gate oxide film is formed and the thin film and the oxide film are patterned to solid-phase grow and moreover, a into an insular form in one photo

containing monosilane (SiH4) gas, a plasma CVD device, mixed gas substrate is installed in a chamber of CONSTITUTION: An insulating the gas is exhausted, the air is according to glow discharge and after disilane (Si2H6) gas or trisilane oxidation method using the plasma surface of the solid-phase grown Si patterned into an insular form in one photolithography method and are phase grown Si film are etched by a and the gate oxide film and the solidoxidized to form a gate oxide film 1-4 whereby the surface of the film 1-2 is and glow discharge is performed, exhausted, oxygen gas is introduced grow the film 1-2 and after the gas is chamber is heated up to solid-phase the temperature in the interior of the substituted for vacuum or inert gas, film 1-2 deposited by decomposition (Si3H8) gas is introduced, an a-Si:H COPYRIGHT: (C)1991,JPO&Japio CVD device. film is oxidized by a plasma photo process. Subsequently, the end



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